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April 1992

COOPERATION SOUTH

The South's Eloquent Champion:

Interview with Julius Nyerere

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The TCDC emblem on our cover displays a symbolic bridge joining the countries and people of the Southern hemispheres. The centre of the emblem—where the Southern, Northern, Eastern and Western parts of the world all join—symbolizes a further and ultimate objective of TCDC: the enhancement of truly global partnership for development.

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Published by:
Division of Public Affairs
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One UN Plaza
New York, NY 10017

Contributions from readers are welcome on specific cases, issues and problems in Technical Cooperation among Developing Countries (TCDC). Short letters are also invited. We reserve the right to edit submitted material.

Send texts to The Editor, Cooperation South, UNDP Division of Public Affairs, One UN Plaza, New York, NY 10017.

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His Excellency Julius Nyerere during a visit last November to the headquarters of the United Nations Development Programme (UNDP). See interview, page 3.

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World Development

Julius Nyerere

Since retiring as President of Tanzania in 1985, His Excellency Julius Nyerere has continued to work energetically towards building a stronger and more self-reliant South. From 1987 to 1990 he chaired the South Commission, a group of representatives from developing countries whose purpose was to examine the problems of the South as a whole and to suggest strategies for its future.

Since the Commission's report, *The Challenge to the South*, was published in 1990, Mr. Nyerere has been working to reinforce the message of the report and to encourage its implementation throughout the developing world. While in New York last November, he discussed the report and its proposals with the Administrator and senior staff of the United Nations Development Programme (UNDP). He also visited the Special Unit for TCDC and was briefed about its activities. He gave the following interview to Christopher McIntosh for *Cooperation South*.

Cooperation South: The report of the South Commission, drawn up under your leadership, is clearly a seminal document for the future of South-South cooperation. In your view, what ideas and proposals in the report make it stand out as a radically new departure?

Nyerere: It is a comprehensive report, drawn up by a group of southerners, to look at the development experience of the southern countries. So in that sense you can call it unique. It is the first time that southerners have looked at their own development comprehensively. The North-South Commission, led by Willy Brandt, touched on a large number of the problems which we touched upon. But in our report the emphasis is different, as you can see from the title. We are addressing the South. The whole emphasis is on self-reliance, on how the countries of the South must recognize their responsibility for their own collective development, how they must understand the need to work with one another if the South is to increase its capacity to develop. This emphasis is quite new.

CS: How encouraged are you by the response to the report so far?

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Nyerere: Reasonably. Of course this was an independent commission, not a government commission, although we were encouraged by some governments. So we don't expect that countries will immediately pick up these recommendations and implement them. But I am reasonably encouraged.

First of all the report is being read, which is a good thing. Also, I know that some of our proposals are being put into practice. Even before we published the report, some countries of the South which were close to the working of the Commission, such as Malaysia, were already beginning to implement some of the recommendations. For example, one of the points we made was that, while the desire of countries of the South to cooperate has always been there, the organizational basis for cooperation was not strong. So we recommended that governments of the South should consider setting up ministries, committees or departments to be in charge of South-South cooperation. A number of countries have now done this. So that is encouraging.

There has also been a good response in the United Nations system. But my hope is really for the long term. You can't expect a report like this to be acted upon in a couple of years. In time I hope that the ideas expressed in the report will affect thinking in many fields, in both North and South.

CS: The report speaks of the need to build a "southern consciousness." Will you describe in greater detail what is meant by this, and how it can be developed.

Nyerere: It is an awareness, a deliberate awareness that we are there. Sometimes the North tends to play down the idea of a South, but the South is there. It is not a question of geography, it is a question of power. There was a time when a division existed between East and West—an East led by the Soviet Union and a West led by the United States. That division has disappeared. To my mind it obscured a much more important division, between the powerful and the powerless. And the powerful are very conscious of themselves. I recently read a comment by the Foreign Minister of one of the NATO countries, who said that his idea of Europe runs from San Francisco to Vladivostock—virtually the complete North. So the northerners are very conscious of that North, and the very fact of that defined North defines the South—a South which shares underdevelopment and powerlessness.

CS: From your own experience as a statesman, what are some of the main obstacles to South-South cooperation?

Nyerere: Some of the obstacles are historic. The North-South links are highly developed. The South-South links are not. If you take Africa, the communications and transport systems do not properly link the African countries. Some of it is lack of knowledge. Often we do not know what is happening in the South, even in the case of neighbouring countries. We ought to know a lot more. This is an area where the Special Unit for TCDC is helping. A lot of it also is prejudice. Southerners sometimes have a tendency to think that nothing which happens in the South is worth looking at. The North glitters and all that glitters is gold. Then there are also areas like trade. Trade has to be financed, and we don't have the financing mechanisms in the South. So one of the things we ought to do is to see how we can provide these financing mechanisms to help southern countries trade with one another.

CS: What steps should the United Nations system take to make its role in South-South cooperation more effective?

Nyerere: First, the United Nations system should accept frankly, openly and without apology, that South-South cooperation is necessary. Sometimes we are almost apologetic about it, and when we talk about South-South cooperation it sounds as if we are talking about organizing the South against the North, which is not sensible. We are really talking about enhancing, through cooperation, the capacity of the South to develop, and that does not rule out cooperation with the North. UNDP and all the agencies of the UN can do a lot to foster cooperation among the countries of the South and help to maximize their capacity to develop. ■

The Environment in Focus

As this issue goes to press, over 20,000 people from all over the world are preparing to converge on Rio de Janeiro, Brazil, in June for the United Nations Conference on Environment and Development, otherwise known as the Earth Summit, the first event of its kind in history. The participants include representatives of governments, non-governmental organizations and international agencies. The conference aims to lay the foundation for a global effort to ensure a more equitable and sustainable future for the planet and to make the environment an issue central to policy-making in every sector of economic life. This is therefore an appropriate moment for *Cooperation South* to focus on the environment. The four articles in this special section address different aspects of the issue as it relates to South-South cooperation.

The Earth Summit and the Role of the South

Luis Gomez-Echeverri argues the need for recognition of the vital importance of South-South cooperation in meeting the global environmental challenge. Mr. Gomez-Echeverri is Manager of the Environment and Natural Resources Group of the United Nations Development Programme (UNDP).

As we approach the Earth Summit, it should be acknowledged that South-South cooperation is one of the most important vehicles for environmental problem-solving in the years ahead. Unfortunately, this has been underemphasized in the preparatory phase of the conference, which has tended to focus on North-South cooperation in this area. While the threat to the environment is a global concern and has to be addressed jointly by both hemispheres, it must be recognized that the South and the North confront the problem from somewhat different positions.

The developed countries have only about 24 per cent of the world's population. Yet their share of global consumption of material resources is well over 50 per cent (for some important resources as high as 90 per cent), and their contribution to environmental pollution is commensurate. If the global aggregate of environmental damage is to be reduced, the North must make its production and consumption patterns less wasteful and more environment-friendly, especially in the energy sector. This will involve some profound changes in the attitudes and way of life of the northern countries.

Unfortunately the mistakes made by the North have been exported to the South, where many environmental problems have arisen from countries adopting inappropriate northern models of development. Now the southern countries face the need to adopt life styles and patterns of production and consumption that are environmentally benign and more in keeping with the resources available and with the needs and cultural traditions of their populations.

Sectors in which this is particularly important include water and sanitation, housing construction, energy, transportation, food production and the manufacture of light consumer goods. In each of these sectors it is arguable that the most relevant technologies and methods are found in the South rather than the North. In many cases, these technologies have been developed by communities with a keen instinct for practical, cost-effective and sustainable solutions — as the pages of this magazine have often shown. Through South-South cooperation, such technologies can be disseminated throughout the developing world.

There is also a whole range of environmental problems that affect groups of countries and therefore demand group solutions. Deforestation in one country can lead to flooding in another. Wind-borne noxious gases and polluted seas and rivers do not stop at frontiers. Nor do refugees fleeing from environmental catastrophe. In dealing with such issues, South-South cooperation is not only desirable, it is essential.

A good example of joint action by a group of countries is the work of the Mekong Committee, comprising four of the countries along the Mekong river: Viet Nam, Cambodia, Thailand and the Lao People's Democratic Republic. Established in 1957 and supported by UNDP, the Committee exists to facilitate cooperation in the management of the river and its basin. The ecology of the basin is an issue of great concern to all the countries involved. It is estimated, for example, that over three quarters of the original forest cover of the basin has been lost through logging, encroachment of human settlements and shifting cultivation. Safeguarding what remains is an important task. To an increasing extent, the river is being used for hydropower, and this too brings enormous environmental problems such as loss of wildlife habitat. With the prospects of Southeast Asia entering a more peaceful phase, it is to be expected that the members of the Mekong Committee will work increasingly effectively together in solving the ecological problems of the basin.

Another way in which developing countries can work together in the environmental area is through international networks. An exam-

ple is the UNDP-supported Africa 2000 Network, which provides technical and financial assistance to grass roots groups and non-governmental organizations working to conserve natural resources and promote sustainable development. The network helps these groups share experiences. Another is the recently formed Sustainable Development Network, in fact a collection of national networks coordinated by UNDP with the aim of sharing data related to the environment and providing technical assistance and training. It is intended that the network should, among other things, facilitate TCDC in these areas. Ramadhar, in his article in this issue of *Cooperation South*, gives other examples of the work of such networks.

South-South cooperation is also important in the area of environmental law. Experience shows that multilateral declarations and non-binding recommendations by expert groups have played an important role in tackling environmental problems among nations, relating to such issues as water resources and trans-boundary air pollution. In many cases these declarations have led subsequently to more binding agreements.

It is to be hoped that the Earth Summit will not only lead to closer North-South collaboration in this area, but will also encourage the countries of the South to work together in tackling the grave environmental problems that face us. ■

Heavy traffic near the mouth of the Mekong in Viet Nam. Concern for the endangered ecology of the Mekong basin has led to collaboration between countries bordering the river.

Rescuing the Soil: An Urgent Case for South-South Cooperation

In every region of the world, fertile soil is being eroded and degraded at an alarming rate. Focusing on Africa, this article by Ramadhar examines the problem and describes some of the actions being taken to tackle it through South-South cooperation. Ramadhar is Chief of Technical and Economic Cooperation among Developing Countries for the Food and Agriculture Organization of the United Nations (FAO).

Soil is the very basis of life. Civilization began where soil was most productive and durable. Soil gave human beings food and fibre, and they honoured it with a place in religion and ritual. The Bible tells us that man was formed of "the dust of the ground" and unto dust was fated to return. Mesoamerican religious ceremonies centred around the cult of Mother Earth. In ancient China the *She-chi-t'an*, or altar to soil and grain, was the primary symbol of territorial possession. Whenever a feudal vassal received a fiefdom, he built such an altar and incorporated into it a handful of soil given to him by his lord. To the ancient Egyptians, the mounds of alluvial soil, emerging from the subsiding waters of the Nile each year, symbolized renewal and regeneration in the cycle of destruction and rebirth, and the pharaoh observed rites to mark the occasion. A Hindu vedic hymn invokes the benevolence of Mother Earth and enjoins human beings to "milk her with amity."

So long as we heeded this counsel and made our actions conform to the laws of nature, the earth was bountiful. But we became reckless and rapacious and plundered the earth's natural resources. We developed tools and techniques that destroyed the productivity of the soil that supports life. We deforested hillsides and overgrazed and denuded the grasslands. Lands that were once green and productive became barren deserts through the abuse of soil resources.

Today, between five and seven million hectares of arable land is lost globally every year through soil degradation. The projected annual loss by the end of the century is 10 million hectares. The world's uplands are now losing some 23 billion tonnes of topsoil per year in excess of new soil formation. It is estimated that by the year 2000 productivity of about one-third of the world's arable land may be severely impaired due to accelerated erosion. In addition, a total of about four billion hectares are prone to desertification and a little over 300 million hectares are affected by salinity.

Crisis in Africa

The problem is nowhere more acute than in Africa, where much of the land is particularly vulnerable to environmental damage. A large part of the continent is covered by low-fertility, coarse-textured soil, shallow soil on steep slopes, leached soil or desert and semi-desert soil. Only about one-fifth of African soils have no major fertility limitations and are suitable for rain-fed crop production, with supplementary irrigation necessary in some cases during the dry season. The land has not been able to bear the pressure of rapidly increasing populations, and the result has been a depletion of the resource base and the spread of land degradation.

In the past, African farmers and pastoralists practised systems of land use compatible with their environment and population density. Farmers in the humid tropics shifted their cultivation, and nomads wandered over the semi-arid regions in search of grazing for their cattle. These and similar practices produced low yields — relatively large areas were needed to support a small population. But it was a way of life that was sustainable. Problems arose when populations started to increase, and pressure on land became severe. There is now no longer enough land available to allow long fallow periods, more and larger herds compete for forage, and traditional systems of land use are being placed under increasing strain.

Approximately 34 per cent of Africa is now under threat of desertification. Deforestation is proceeding 30 times faster than reforestation. Crop residues and animal manure, which used to be returned to the soil, are being burnt for fuel or otherwise disposed of. At the same time, the ploughing up of pastures has forced herders to move further into marginal areas where their animals destroy the vegetation and land degradation is accelerated.

Soil erosion and degradation are ubiquitous. One African country is estimated to be losing annually 1.6 million tonnes of nitrogen, 16.5 million tonnes of organic matter

Reclaiming land for agriculture in the Keita valley, Niger.

and a quarter of a million tonnes of phosphorus through erosion. A 1987 FAO study indicated that sediment in many African rivers is increasing roughly one and a half times as fast as populations in their catchment areas.

Cooperating for Conservation

No country can solve these problems on its own. Close cooperation between nations is essential if natural resources are to be responsibly used and effectively managed. Such cooperation is much more likely to be successful if it is between countries that share similar ecological conditions. In other words, a South-South transfer of technology is generally more appropriate than a North-South transfer involving countries with markedly different ecosystems. A 1983 map, available from FAO, captioned "Technical Cooperation among Developing Countries: A Physical Resource Base," illustrates the potential for environmental cooperation among developing countries in Africa and other regions, based on shared climatic and soil conditions.

FAO's International Scheme for the Conservation and Rehabilitation of African Lands provides a means by which African countries can develop their own programmes to fight land degradation. The scheme, prepared with the assistance of African experts, puts particular emphasis on international coordination. It encourages regional and sub-regional programmes in such areas as training, information exchange and scientific research. Such programmes enable African countries to benefit from each other's experience in land conservation. Fortunately, Africa already has a number of well-established organizations in this field, such as the Southern African Development Coordination Conference (SADCC), the Permanent Interstate Committee for Drought Control in the Sahelian Zone, and the Agro-Forestry Research Network for Africa. FAO is working closely with these in developing regional conservation and rehabilitation programmes.

The SADCC Coordinating Unit for Soil and Water Conservation and Land Utilization, established in 1985, is an excellent example of regional cooperation, which could be followed by other groups in Africa. With headquarters in Maseru, Lesotho, the unit promotes and coordinates conservation activities within the SADCC group. It receives support from the Swedish aid organization SIDA.

Soil conservation workers in SADCC countries are kept in touch with each other through a newsletter, *Splash*, produced three times a year. The unit is active in a number of areas, especially the organization of workshops and training courses. It is also promoting research into the extent and severity of erosion, and studies are being carried out in Botswana, Lesotho, Mozambique and Tanzania to assess the effects of erosion on soil productivity— a subject about which little is currently known.

Soil Assessment

Another important task is assessing the fertility and production potential of African soils. Ideally, countries should use standard measures in making their assessments, so as to facilitate exchange of information, but in fact there is a good deal of variation in assessment methods. The problem is particularly acute in sub-Saharan Africa, where many different survey procedures and systems of soil classification are in use.

African countries have been cooperating in soil evaluation and management for nearly two decades. It was in 1972 that the West African Soil Correlation Subcommittee was set up under a joint FAO/UNDP project. This was followed by the establishment of the East African Soil Correlation Subcommittee in 1974. These correlation subcommittees promote collaboration among the participating countries, thus making use of locally available experience and expertise. The broad goal is to improve knowledge and management of African soil resources for sustained agricultural production. The West African Soil Correlation Subcommittee represents Benin, Burkina Faso, Cameroon, the Central African Republic, Congo, Côte d'Ivoire, Gabon, the Gambia, Ghana, Guinea, Guinea-Bissau, Liberia, Mali, Niger, Nigeria, Senegal, Sierra Leone and Togo. The East African Subcommittee covers Botswana, Ethiopia, Kenya, Lesotho, Madagascar, Malawi, Mozambique, the Sudan, Swaziland, the United Republic of Tanzania, Uganda, Zambia and Zimbabwe.

The subcommittees focus on enhancing the capacity of national institutions to carry out surveys of soil resources. They also promote cooperation among African countries in training soil surveyors and exchanging information, personnel and equipment. Soil surveyors from Benin and Burkina Faso have been trained in Togo and Côte d'Ivoire. Soil chemists from Madagascar have received training in Benin. The Kenyan Soil Survey Department and the Togolese National Soil Science Institute sent personnel to Zimbabwe and Benin respectively for field work. Recently a regional training course in soil surveying, soil classification and land evaluation was organized in Banjul, Gambia, for soil scien-

tists from Gambia, Guinea, Guinea Bissau and Senegal, with the help of experts from Burkina Faso, Senegal and Togo.

The Value of Networks

Apart from the organizations already mentioned, Africa has a number of regional networks focusing on various specific areas of land conservation. One such network, for example, is concerned with wetland development. The world has approximately 900 million hectares of wetlands, and Africa accounts for just over one-third of the total, with some 330 million hectares, mostly located in sub-Saharan countries. So far, these have been largely untapped as a food source. Recently, however, with growing population pressure and the use of marginal lands for agriculture, attention has begun to focus on wetland development. Clearly it is essential for any such development to be carried out with great sensitivity towards the environment.

In order to encourage regional cooperation in responsible wetland development in Africa, FAO is promoting a network linking African specialists and institutions active in this field. Known as Wetland Development and Management, it was formalized in April 1991 at a meeting in Banjul, Gambia, attended by representatives of 10 countries. The network disseminates technical and scientific information and promotes the exchange of technologies appropriate to wetland development. It is also building a database incorporating a wide range of scientific information on Africa's wetlands.

Another important regional organization is the African Tillage Network, supported by FAO. Improvements in tillage practices are essential for effective soil and water conservation, and the network encourages the sharing of experiences and technologies in this area.

Two other networks deal with land development and management of acid soils in humid and sub-humid Africa. Supported by the International Board for Soil Research and Management, both networks have their coordinating offices in Abidjan, Côte d'Ivoire. The main participating countries are Burundi, Cameroon, the Congo, Côte d'Ivoire, Ghana, Madagascar, Nigeria and Zambia.

Learning from Traditional Technologies

African soils can be effectively conserved and nourished only by those who make their living from the land, and any solutions advocated should be within the capabilities of local farmers and technicians. Traditional conservation systems practised in some parts of the continent could hold important lessons for many African countries.

An example is the terracing and agro-forestry system developed by the Konso people of southern Ethiopia. Another is the pit and mulching technique used by the Matengo of south-east Tanzania. It may be possible to adapt such systems to meet present-day requirements. An example of this is the integrated rural development project in the Keita valley in Niger, funded by the Italian government and implemented by FAO. Although this is not in itself a TCDC project, the type of technology involved, marrying traditional production systems with modern methods, could readily be transmitted through TCDC channels. The basic technology is "water harvesting," which means making sure that the water stays in the soil where it falls rather than running off to wreak damage elsewhere. The result of this effort is that trees and crops now grow where only a few years ago there were only dunes and rocks. The project has inspired great enthusiasm among the local community, whose participation has been essential to the success of the scheme.

This and other recent conservation projects in Africa and elsewhere have shown that soil loss and degradation can be prevented or remedied. While the primary responsibility for action must lie with the developing countries themselves, their efforts need to be backed by international support, both regionally and globally. South-South cooperation offers an opportunity to find appropriate ways to meet the challenge and optimize the use of available resources. At the same time this must be part of a global endeavour in which South-South and North-South cooperation complement each other. ■

Transforming Rural Life at the Grass Roots

Practising bio-intensive gardening in El Castillo, Mexico, at a workshop organized by IIRR and its Guatemalan affiliate with the help of a local NGO.

The International Institute of Rural Reconstruction (IIRR), a non-governmental organization (NGO) based in the Philippines, is helping to enhance the quality of rural life and encourage sustainable development through a holistic approach that links education, livelihood, health and self-government. It was founded in 1960 by the Chinese educator Y.C. James Yen (1893-1990). Now its highly successful methods are being transferred to many other developing countries through training and extension services and through affiliated organizations. The IIRR's current President, Dr. Juan M. Flavier, interviewed here for *Cooperation South* by Christopher McIntosh, describes the work of the organization.

Cooperation South: How did you first come to be involved in the work of the IIRR?

Flavier: I came from a very poor family and was born in the slums of Manila. Later we moved to the mountains where my father worked as a labourer. I was fortunate enough to be able to study medicine, and in the early 1960s, at the time of my graduation, I met the founder of IIRR, James Yen, who was then in his 60s. I told him that I planned to go into the mountain villages to practise medicine and do community development. He told me that I would fail. "You'll do great medical work," he said, "but very few people know how to do community development. You are bound to commit mistakes at the expense of the people." Instead he suggested that I first work with him for two years, and I accepted. In fact I have now been in the movement for 31 years!

CS: What are the basic features of the method developed by James Yen?

Flavier: It is based on a fourfold approach, corresponding to four basic elements of community welfare. The first is livelihood. Under this heading, we promote improved agricultural methods, help to establish village industries and train people in management and accounting. The second element is health, which includes the prevention and treatment of illnesses, family planning, sanitation and nutrition. The third is education and culture, including literacy programmes and musical and cultural activities. The fourth is self-government—overcoming civic apathy and encouraging communities to organize themselves more effectively. The beauty of it is that you can begin with any of these, depending on the situation.

James Yen and his colleagues developed this approach by working at the grass roots in China between the 1920s and 1940s, and later they applied what they had learned to combat poverty in other developing countries.

CS: Can you describe some of the ways in which the IIRR participates in South-South cooperation?

Flavier: In addition to our world headquarters in the Philippines, we work in partnership with independent rural reconstruction movements in six countries. One is for the Philippines itself. The others are in Colombia, Ghana, Guatemala, India and Thailand. These affiliates share knowledge with each other and pass it on to other countries in their regions. Then twice a year in the Philippines we hold a one-month

Dr. Juan M. Flavier (*left*) with the IIRR's founder Y.C. James Yen (1893-1990).

international training workshop. About half the participants come from NGOs around the developing world. The remainder are civil servants and public sector personnel. In most cases air fares, tuition fees and living expenses are paid by the respective governments or NGOs, but some participants are sponsored by United Nations agencies or private foundations.

We also organize training workshops outside the Philippines, which avoids expensive air travel for the participants, since we bring the training to them in their own countries. We have already held such workshops in Bangladesh, Ghana, Guatemala, India, Indonesia and Kenya.

There is a big demand for our courses, but we have to limit them to about 25 people at a time. Unfortunately we can only accept one in every three applicants.

In addition to our regular training programmes, we also provide technical support and expert advice directly to other organizations working for the welfare of rural communities in the developing world.

CS: Can you give some examples of the kinds of technology that you are disseminating?

Flavier: One of our most important activities is what we call regenerative agriculture, meaning environmentally sound approaches to food production. For example, we are promoting bio-intensive gardening, which is in fact an adaptation of a very old method in which different crops are interspersed with one another. For optimum nutrition, these should always include a fruit, a legume, a root crop and a leaf crop. Animals can also play an important role, generating additional income and providing manure. It is also important to maintain soil fertility by recycling as much as possible. Organic material is returned to the soil as compost, and when a plant is harvested, part of the root is left in the ground to decompose and add humus to the soil. Also, we dig the ground only once, at the beginning. After that, we allow the soil to absorb the nutrients without digging, as happens naturally in the forest. Our tests in the Philippines have shown that a bio-intensive garden of less than 50 square metres can supply a family of six with year-round vegetables that supply 100 per cent of their vitamin C and iron needs, 60 per cent of their vitamin A needs and 30 per cent of their protein needs.

Through our affiliates and extension activities, these methods are being widely disseminated. We have also developed training kits on regenerative agriculture, which are available in several languages. These have proved very popular among rural development workers in different parts of the world.

In addition, to safeguard traditional plant varieties, we maintain a "seed bank" of over 1,000 types of plant from all over the world. By distributing these seeds to farmers, we help to conserve biological diversity.

In the field of appropriate technology, we are constantly trying out different ways of improving the quality of life for rural communities. For example, we revived an old type of water pump called the hydraulic ram, which works purely by water pressure and has only two moving parts. We introduced it ten years ago in the Philippines to the village of Batas in Cavite province. The result was the villagers for the first time had a constant supply of fresh water to their homes, and communicable diseases went down by 22 per cent. The original ram is still working.

I could mention many other areas in which we are active. In family planning, for example, we have developed what we call the "agricultural approach." This involves using analogies from farming to teach different birth control methods. We have developed over 600 analogies, and the method has been very successfully applied in Kenya, Thailand and other countries.

CS: In your view, what are the special features of the IIRR's approach that have made its work so widely acclaimed in the developing world?

Flavier: One very important point is that everything we teach in our classes has already been proven in what we call our "social laboratories", that is clusters of villages where we develop and test our technologies with the help of local people. This is something that the participants greatly value. They know that we never pass on untried methods.

Another significant factor is that we ourselves are a developing country. When people come to the courses, their reaction is: "If you can do this, we can do it too!" ■

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Salvaging the Botanical Wisdom of Asia and Amazonia

Ethnobotany is the study of the use of plants in traditional cultures. Last December, ethnobotanists from Asia and the Amazon region of Latin America met in Belém, Brazil, on the southern shore of the Amazon delta, to pool their knowledge and establish closer links. In this article, ethnobotanical consultants Jennie Wood Sheldon and Patricia Shanley, who coordinated the workshop, report on the event, which was supported by the United Nations Development Programme (UNDP).

Workshop participants holding an open-air discussion at the Embrapa Forest Reserve near Belém.

The tall mango trees that line the streets of Belém, known as "The City of Mangos," actually originate from Asia—a reminder of earlier trade in valuable plant species between Asia and Latin America. Many species native to Asia are found in the cultivated gardens of the Amazon basin. Similarly, many parts of Southeast Asia have been transformed by plantations of rubber (*Hevea brasiliensis*) and quinine (*Cinchona* species), both native to the Amazon. In Indonesia the word for a kitchen garden is *kindau*, from the Portuguese *quintal*, used to describe the fruit and medicinal gardens of Brazil.

A residual trail of fruits, medicines and language thus provides evidence of the historical exchange of plants and ethnobotanical information between the two regions. Both are linked by early Spanish and Portuguese exploration, and both possess a rich variety of flora and an abundance of ethnobotanical knowledge. The urban and forest-dwellers of both regions use plants for a wide range of purposes—as construction material, for food, for medicinal purposes and in religious ceremonies. However, the presence of exotic species, such as the mango, is more a memento of past connections than evidence of an active appreciation of such links today.

In Asia, ethnobotany has long enjoyed a respected place in the cultures of many countries. It is preserved not only orally by folk practitioners, but also in the texts of the Aryuvedic and traditional Chinese medical systems, both of which continue to be widely practised. Such systems were not significantly disrupted by the colonial era and continue to be studied in universities.

In Amazonia and in Latin America as a whole the situation is somewhat different. Here ethnobotanical knowledge has largely been transmitted orally, as part of folk culture, and is therefore more perishable. It also suffered more disruption through colonialism and the influx of northern influences. The cultures and languages that harbour this precious information are now even more vulnerable than the fast-disappearing rain forests themselves. At the same time, ethnobotanical research in Latin America tends to be limited in scope and poorly funded, even in areas such as the Amazon where the loss of plant diversity has been so much publicized.

This loss is especially tragic in view of the potential role of ethnobotany in sustainable development. Over thousands of years traditional cultures have accumulated a vast store of knowledge about plant species, their uses and their ability to regenerate—knowledge that could significantly help current efforts to safeguard the environment. Patterns of forest management, often preserved in the form of strict community rules governing harvesting and use, could also prove invaluable in a world that is increasingly constrained by limited resources.

The seven-day workshop in

Belém was part of an effort by Asia and Amazonia to share knowledge in these areas and to assist each other in preserving their ethnobotanical heritage. Hosted by the Museu Paraense Emílio Goeldi, a natural history museum in Belém, the event was organized by UNDP's Regional Bureau for Latin America and the Caribbean, in conjunction with the Special Unit for Technical Cooperation among Developing Countries (TCDC).

The 10 participating countries were Brazil, China, Colombia, Dominican Republic, Ecuador, India, Indonesia, Nepal, Peru and Thailand. Representatives were from various institutions of learning and possessed a wide variety of field experience in ethnobotany. Among the Asian participants was Professor Li Hui Ting, director of the Department of Traditional Chinese Medicine, Shanghai, who brought his long experience in the isolation and manufacture of plant-derived chemicals. India was represented by S.K. Jain, chief editor of the journal *Ethnobotany*, who has orchestrated four ethnobotanical workshops in India over the past decade. The participants from Latin America ranged from the directors of museums and development programmes to local students eager to expand their knowledge of ethnobotany.

The week was filled with presentations, discussions and trips to the field. On the second day, the participants divided into three groups to walk through the nearby Embrapa Forest Reserve and share ideas on collecting specimens, preserving biodiversity and gathering data from communities with valuable botanical knowledge. Reconvening at the entrance to the reserve, the participants settled down to an open-air discussion. Collection techniques were demonstrated, which led to a lively debate over herbarium specimens and the problems of obtaining information from the field. There was a general consensus that ethnobotanists conducting essential field research often have to make do with very meagre or outdated information.

The workshop concluded with a day and a half of smaller group sessions, partly conducted under the shade of fruiting cacao trees at the Combu Island Research Station, a 20-minute boat ride from Belém. In these sessions, the participants hammered out a series of specific recommendations aimed at strengthening the international exchange of ethnobotanical knowledge. They proposed forming an ethnobotanical information network, establishing a newsletter to keep researchers informed of each other's work, and seeking funding for future exchanges and training opportunities.

Many of the workshop participants, from both Asia and the Amazon, are actively engaged in efforts to apply ethnobotany at the community level, using it, for example, in health care and the restoration of degraded land. Prior to the workshop, the majority of these researchers had little or no opportunity to exchange ideas with ethnobotanists from other regions. All participants greatly valued the contacts that they made at Belém.

S.K. Jain summed up his reaction to the meeting by saying: "This exchange was, without doubt, the most notable contribution to promoting ethnobotanical awareness, communication and application that I have ever attended." ■

Chinese ethnobotanist Prof. Li Hui Ting on a forest walk in the Embrapa Reserve.

A Country at the Crossroads: Mongolia's New Role in TCDC

Dogsomyn Ganbaatar, Mongolia's national TCDC focal point, writes about his country's eagerness to participate more fully in TCDC.

Dogsomyn Ganbaatar.

Mongolia is marching to a new tune. Like most other countries of the former socialist bloc, it is undergoing profound and far-reaching changes as it moves to democracy and a free market economy. At this crucial time of transition, Mongolia is ready and eager to join hands with other developing countries through South-South cooperation. These countries can provide vital assistance in our drive to upgrade our technological capacities through the transfer of information, ideas, skills and techniques.

We believe that this type of co-operation can offer us solutions that are appropriate to our needs and consistent with our own development policies and priorities. For example, as a result of the international political changes that have taken place over the past two and a half years, Mongolia can no longer depend heavily on Russia for its technologies. These were, in any case, often unsuitable for our indigenous raw materials. Therefore, with the help of other countries in the region, we would like to develop more Asia-specific technologies. At the same time, we welcome cooperation with all regions of the developing world.

In order to establish a firm basis for such cooperation, it is vitally necessary for us to strengthen our institutional capacity to engage in TCDC. In this connection, it was of great value to us when the Special Unit for TCDC of the United Nations Development Programme held a TCDC workshop in Ulaanbaatar from 29 July to 1 August 1991, the first of its kind in Mongolia. The participants, numbering over 30, included representatives of various ministries and public corporations as well as the newly established Mongolian Chamber of Commerce.

As a result of this workshop, the Mongolian national TCDC focal point was established within the International Cooperation Department of the Ministry for National Development. Previously, the focal point had been located within the State Committee for External Economic Relations, which no longer exists. The main function of the national focal point is to work out government policy on South-South cooperation and to identify needs that can be met and capacities that can be offered through the TCDC modality. To facilitate this, we are setting up sectoral focal points in key ministries.

We have also begun to establish functional contacts with focal points in other countries. In this regard, we were pleased to be able to participate in the two recent programming exercises organized with the assistance of the Special Unit for TCDC—one on food and agriculture, held in the Philippines in September, and another on small and medium-scale enterprises in the electronics field, held in the Republic of Korea in October 1991.

Mongolia has both needs to fill and capacities to offer through TCDC. In general terms, its most pressing needs are connected with its economic restructuring programme, which includes freeing most prices, liberalizing internal and external trade and privatizing most state enterprises. Linked with the restructuring programme is a need to upgrade our civil aviation, railways, roads and other elements of our infrastructure.

Dealing with specific sectors, agriculture has a high priority as it is the most important sector in Mongolia's economy, accounting for 25 per cent of the national income. In this field, our partners

Children at a school in Ulaanbaatar learning the Mongolian alphabet.

could help us in such areas as farm management, livestock quality control, veterinary medicine, pest control and fodder production.

Mongolia also attaches great importance to education, and we could benefit from assistance through TCDC in modernizing our schools and developing improved curricula. One area of education where we specially need help is in the teaching of foreign languages, particularly English. Over the past few decades, Russian has been the predominant foreign language taught in schools, with the result that few Mongolians are proficient in English. This can cause difficulties for us when it comes to TCDC. However, we are confident that with adequate teaching this situation can very quickly be remedied.

As regards the capacities Mongolia can offer, these also cover many sectors. In recent years, we have carried out extensive research in biotechnology and have achieved valuable results which could be shared with our TCDC partners. We have, for example, developed a powerful treatment for burns, known as *pankepsin*, which has been used effectively to help victims of the Chernobyl disaster. We are also reviving our expertise in herbalism and other forms of traditional medicine. We have recently established an Institute of Traditional Medicine, which has the potential to be a good vehicle for TCDC exchanges. In the cultural sphere, we can offer our traditional music, and in sport we give instruction in our own forms of wrestling, judo and other martial arts.

One of the ways in which Mongolia intends to cooperate with other countries is through joint ventures. From the Korean programming exercise, for example, we came away with 13 proposals for joint ventures in electronics, most of them with Korean firms. These include the manufacture of such items as colour television sets, refrigerators, electric cables and domestic lighting appliances. Our partners can offer us capital, technology and know-how, while we in turn can provide manpower, raw materials and factory buildings. These projects are still at a preliminary stage, but we hope that, as our private sector develops, they will be an important engine for progress in Mongolia. ■

At a TCDC consultation meeting in Seoul, Republic of Korea, Liviu Jalba from Romania (*centre*) discusses a joint venture with Fijian delegates Isoa Gavidi (*left*) and Samuela Rokocakau.

Asia Reaches Out Through TCDC

Aye Than Doliner discusses three recent capacities and needs matching exercises in the Asia and Pacific region and examines how the methodology has developed. The author is Senior Regional Officer for Asia and the Pacific, in the Special Unit for TCDC of the United Nations Development Programme (UNDP).

The capacities and needs matching exercises, supported by the Special Unit for TCDC, continue to be an effective catalytic process for promoting South-South technical cooperation. The three exercises held last autumn, in the Philippines, India and the Republic of Korea, demonstrate growing interest in TCDC. They also illustrate how the exercises have continued to evolve as lessons have been learned. All three were unisectoral, unlike the earlier exercises which tended to cover a wide range of sectors. In all three cases the Special Unit helped in the preparation and organization of the events and assisted host governments by providing air travel and paying living expenses for the participants from invited developing countries.

Manila

The meeting held in Manila, Philippines, from 2 to 6 September, focused on food and agriculture. It was attended by 22 countries from all regions of the developing world, as well as by representatives of three United Nations bodies: UNDP, the Food and Agriculture Organization (FAO) and the World Food Programme (WFP). The event was coordinated by the Philippines' Department of Agriculture in coordination with the Department of Foreign Affairs. Before the meeting, the Philippine government, with the Special Unit's assistance, fielded programming missions to India, Thailand and some countries in Latin America to help develop TCDC proposals. At the meeting itself 175 bilateral activities were agreed upon.

Participants found that the Philippines had much to offer in the agricultural sector. The Manila-based International Rice Research Institute, for instance, has been developing a high-yielding, pest-resistant type of rice which could benefit many developing countries. One of the delegates who expressed an interest in the new variety was Pradeep Singh of India's Ministry of External Affairs. Under one of the TCDC activities agreed with the Philippines, India will send a group of agriculturalists to study rice production and other aspects of Filipino plantation technology. In the other direction, India will supply the Philippines with buffalo semen for artificial insemination and will provide training courses on parasitic diseases and farm machinery.

China was another country that played a prominent part in the exercise and will participate in 25 TCDC activities as supplier and 11 as receiver. For example, personnel from the Philippine Animal Health Center will visit China to learn about traditional veterinary medicine, including the use of herbal remedies and acupuncture for treating animals.

As usual, the majority of TCDC activities involve the host country, which is the supplier in 83 cases and the receiver in 48. However, 44 of the activities do not involve the Philippines. This is in line with a continuing increase in the proportion of activities arranged between countries other than the host—a welcome trend, as it shows that the TCDC capacities and needs matching exercises are increasingly being used to build TCDC bridges in many different directions.

New Delhi

Another capacities and needs matching exercise in the agriculture sector was held in New Delhi, India, from 7 to 11 October. The Indian Ministry of Agriculture hosted the meeting with the support of the Special Unit for TCDC. A total of 43 countries took part, and 393 bilateral exchanges were agreed. Sub-sectors covered included crop science, animal husbandry, fisheries, horticulture, agricultural machinery, seed production, plant protection, post harvest technology, dairy farming and disaster management.

In addition to the bilateral projects, two regional projects were formulated which involved the Latin American countries represented (Argentina, Brazil, Cuba, Mexico and Peru). In one case, India will assist Latin America in the development of citrus fruit growing. In the other, Cuba will share its expertise in the transfer of

Delegates to the Seoul meeting visiting a shopping centre specializing in electrical goods.

cattle embryos.

During this exercise more attention was paid to finding follow-up financing, a problem that in the past has often made it difficult to implement exchanges. With this in mind, the Indian government confirmed that institutes in India would offer 147 slots free of charge for trainees from developing nations. Participating countries were also urged to explore potential funding from national budgets, United Nations agencies, development banks, bilateral donors, non-governmental organizations.

Seoul

The matching exercise that took place in Seoul, Republic of Korea, from 14 to 18 October, was held in conjunction with the Second Intergovernmental Meeting of TCDC National Focal Points. It was sponsored jointly by UNDP and the Government of the Republic of Korea, with documentation support from the UN Economic and Social Commission for Asia and the Pacific (ESCAP).

This exercise focused on small and medium enterprises in the manufacture of electrical and electronic goods. Twenty-five countries took part. This exercise was a new departure that the private sector was represented to a greater degree than ever before. Out of the 135 participants from the invited countries, 60 were government officials, 26 were from non-governmental organizations, and 49 were from private firms. In addition there were 13 representatives of UN organizations.

The participation of so many private entrepreneurs from around the world, coming together to discuss technical exchanges and joint ventures, is a welcome development. Historically TCDC has been largely a government-to-government affair, but it is now responding to the global shift to greater emphasis on the private sector in national development and international technical cooperation.

One of the private companies taking part was the Polish firm SOFTLAN, which makes telecommunications equipment and computer software and also sells computer hardware. Its president and co-owner, Piotr Lancmanski, heard about the Seoul event when the official invitation to the Polish government was sent via UNDP's Warsaw office, and information about it was circulated through the Polish Ministry of Industry. It presented a unique opportunity for him to meet potential partners in the developing world and discuss collaboration. Although he did not finalize any specific TCDC activities or joint ventures at the meeting, he made many important contacts.

Another eastern European country represented was Romania, which came away with 13 agreed TCDC activities, four with Korea and nine with other countries. China and Romania plan a joint venture in the manufacture of television tubes. Romania can offer a big market, while China can provide technology to reduce the price and improve the product.

Romania also signed a joint venture with Fiji, a country that is eager to establish an electronics industry. "We can provide the technology to help the Fijians develop in this field," explained Liviu Jalba of the Bucharest firm Electronica. "They have a good market and access to necessary raw materials such as copper."

A Matter of Scale

This is a good example of the usefulness of TCDC to countries that want to begin manufacturing a product on a small scale, using relatively straightforward technology. In developing countries there is a wealth of expertise in this type of manufacture, which is not so readily available in the developed countries, with their big markets and large-scale production lines.

On the other hand, developing countries also have plenty of more complex and advanced electrical technology, as was demonstrated by the huge Korea Electronics Show, which delegates visited on 17 October. Products from all over the world ranged from robots to microcomputers and from compact disc players to telecommunications equipment. Not surprisingly, Korean firms featured prominently. On the same afternoon delegates visited a shopping centre in Seoul containing retail outlets selling a wide variety of consumer electrical goods.

In a world that is increasingly dependent on electrical technology, this TCDC exercise showed that developing countries have much to gain by sharing their skills in this field. It also showed that the private sector has now firmly established its place in TCDC. ■

TCDC/INRES

Is There a "Virtual Reality" in TCDC's Future?

By Edward C. White

Currently a favourite topic in the world of information and communications technology is what is called "virtual reality," a paradoxical-sounding term, since it suggests something almost real but not quite—which is not far from the truth. Virtual reality is a system for creating, through computer software or other means, a highly convincing model of a real situation, which we can interact with dynamically.

Various methods can be used to heighten the illusion of reality. For example, computer users can now buy hardware interfaces, which may consist of three-dimensional eyeglasses, motion-sensing devices or even special gloves which can produce the sensation that one is actually touching an object shown on the screen. Such gadgets are designed to create the sense that one is physically manipulating a non-physical (or at least a digital, electronically generated) reality.

On the software front virtual realities abound, although the field is, in many respects, still in its infancy. "Each of us has a microcosm of information in our computers—a *virtual* world that is small enough to fit on a desk top, yet vast enough to get lost in [emphasis added]," reads the introduction to the user's manual for *Folio Views* Infobase software (Folio Corporation, June 1991). In this instance the reference is to *data* itself as a virtual world. However, there is a growing body of computer applications software, as distinct from data, designed to simulate reality.

Very often such applications take the form of games or entertainment software. Many, however, have a very serious intent. One of the mainstays of this kind of software is the Microsoft *Flight Simulator*. Even a brief acquaintance with this software package will compel the user to decide whether he or she *really* wants to learn how to fly an aeroplane or to give up the steep learning curve involved in playing the game. In a quite different vein, an interesting piece of software named *SimCity* (Maxis/Brøderbund Software) allows you, the user, to manage a city and its problems. Another package called *SimEarth*, from the same manufacturer, enables you "to experience the evolution of a world that you create! Set in motion the forces of nature— the origin of oceans, the spread of rain forests, the development of life. Begin with one of seven pre-built planets, or form your own...." Obviously, the objective of such software is to teach rather than merely amuse.

It now seems certain that what once was thought to be the great promise of television as an educational medium may yet be realized by the use of computers, which have the great advantage over television that they are *interactive*. The user can interact with the medium and manipulate whatever virtual reality he or she is engaging in, to extract information and ideas, to learn a skill or, indeed, merely to enjoy the process. At present this is usually done through a keyboard, but undoubtedly in the very near future it will be common practice to use a pen, stylus, fingertip or even one's voice.

Another type of virtual reality is being created by the ongoing revolution in telecommunications. The melding of computer and telecommunications technologies has already made possible the system known as teleconferencing in which participants physically located in different parts of the world, can "sit" around a table at a meeting, deliver addresses, converse and reach decisions in real time without ever leaving home.

How does all this relate to TCDC? In terms of development, the ability to experiment with simulated or virtual realities brings the possibility of trying out strategies and activities at very little cost and with no negative side effects. This approach is not, of course, new. Economic and econometric models have been used for years, for example, to enable planners and policy makers to explore various "what if" solutions to problems in a theoretical environment. Computer software is also used in a similar way in industrial design and manufacturing. Mistakes are made and ironed out in digital images, rather than in steel, wood, glass or plastic.

It has been said that experience is a hard taskmaster. One of the potential advantages that developing countries have over the older industrialized societies is that they may be able to avoid some of the costly and damaging mistakes which have been made in the name of progress. Virtual reality is a way to learn from experience without the costs of actualizing it in the physical world. Its applications in the environmental field are obvious. The path of a projected motorway, for example, can be tested in advance for its impact on the surroundings.

Although at present most of the virtual reality software is being developed in the northern industrialized societies, this need not deter developing countries from applying it for their own purposes. Already a number of computer networks exist in the developing world under the auspices of various regional and sub-regional organizations. If these networks had the capacity to use virtual reality, the countries involved would have

at their disposal a powerful tool for sharing experience. Lessons learned by a particular country could be fed into a virtual reality "bank" to be drawn upon by other countries. However, much closer cooperation among developing countries is needed to make full use of these possibilities.

There are also exciting prospects offered by the advances in telecommunications that I mentioned earlier. As these become more widely available in developing countries, they open up the possibility of a much wider sharing of capacities among developing countries. Expensive educational, scientific and testing facilities could be shared, both within countries and across national boundaries. Some developing country institutions are already making effective use of distance learning. An example is the University of the South Pacific, which has its main campus at Suva, Fiji, and many extension centres in such scattered locations as Tonga, Niue and the Cook Islands. Through distance education methods, these centres are now able to make direct use of the teaching staff, library and laboratory facilities at the Fiji headquarters. Similarly, research institutions in different parts of the world, with shared aims and activities, could be twinned. This opens up a whole new possible application for the INRES database. Institutions could use INRES to identify potential twins, with a view to linking up through telecommunications.

Teleconferencing, now a widespread business practice in the industrial north, could greatly facilitate TCDC events such as capacities and needs matching meetings, workshops, training sessions and international meetings of focal points. It would obviate the need to pay air travel costs and living expenses for the participants, thereby eliminating one of the major obstacles to TCDC.

The dream of a "global electronic village," in which people all over the world can freely communicate and exchange ideas with each other, is steadily coming closer to achievement. The implications for the developing world are exciting, and those involved in South-South cooperation should be aware of them. ■

Book Review

The Case for Appropriate Technology

THE ECONOMIES OF SMALL: APPROPRIATE TECHNOLOGY IN A CHANGING WORLD,
by Raphael Kaplinsky
(Intermediate Technology Publications, 103-105 Southampton Row, London WC1B 4HH, UK)

This book adds ammunition to the argument that the appropriate technology movement, with its small-scale emphasis, offers the developing world a widely applicable alternative to many of the large-scale technologies that have typically been imported from the industrialized countries. The author points out that traditional notions of economic efficiency fail to take into account broader notions of social and environmental efficiency. At the same time, even purely economic considerations tend to favour appropriate technology. Inappropriate technologies were chosen because they were believed to bring economies of scale. In fact, such economies can be reaped only under optimal or near-optimal conditions, which rarely exist.

A case study on Kenya's bread industry, comparing large-scale and small-scale bakeries, reveals that the small brick oven is more efficient overall than the large, mechanized bread making plant. However, a policy of state-controlled prices and the colonial legacy of large mills have resulted in the bigger bakeries dominating the market. A similar situation is found in the brick-manufacturing industries in Kenya, Botswana and Tanzania.

Appropriate technology is, of course, not confined to the developing world. Its benefits are also recognized in the industrialized countries, as the author shows. He rightly points out that the concept of appropriate technology can be applied to "high-tech" industries, and he reminds the reader that "appropriate" is not synonymous with "inferior" or "second best". As more and more countries of the south move into high value-added industries, such as electronics, the principles of appropriate technology will continue to be relevant.

Although it is a pity that the author's examples of appropriate technology in the developing world are largely confined to a few African countries, they nevertheless contain valuable lessons for policy makers all over the world.

— Mawuli Tse

TCDC in Civil Aviation

I would like to point out an important area in which I believe TCDC can play a vital role, namely civil aviation. It is obvious that air communications are crucial to the developing world and to South-South cooperation. Therefore it is in the interests of all developing countries to assist each other in this sector. One of the areas in which they can do this is training.

Traditionally, airlines of the developing world trained their staff at bases run by airlines of developed countries. In the past there were valid reasons for this, as developing counties could ill afford to create and maintain the necessary facilities. However, the larger airlines in the developing world have gradually created their own training capabilities and maintenance bases. Some very fine facilities are now owned and operated by these airlines in different parts of the world and are available to other developing nations.

While many of the skills required of airline personnel are the same throughout the world, developing country airlines often have special needs related to regional conditions and other factors. Flying a Cessna 206 across Belgium is a very different experience from flying the same aircraft across Kenya, and different skills are needed. It therefore makes sense for countries with similar aeronautical conditions to share their training capacities. The International Civil Aviation Organization (ICAO) is helping to further TCDC in this field through the training programmes organized under its auspices, often with the help of the United Nations Development Programme (UNDP). A list of these programmes can be found in the annual *ICAO Training Directory*, available from the Technical Cooperation Bureau, ICAO, 1000 Sherbrooke Street West, Suite 400, Montreal, Quebec, Canada H3A 2R2.

Apart from cooperation in training, there are many other ways in which developing country airlines can further TCDC. One way is by making unused seats on aircraft available at preferential rates to people travelling on TCDC exchanges, thus helping to reduce travel costs, which are a major obstacle to TCDC initiatives. Burkina Faso's national airline already operates this policy, and hopefully other developing nations will follow suit.

K.C. de Miranda
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Training Course on Biogas Technology

I wish to draw your readers' attention to an international training course on biogas technology, which will take place from 15 July to 30 August, in Chengdu, China. It is jointly organized by the Chengdu Biogas Research and Design Institute and the Chengdu Xing Guang Development and Exchange Centre for Appropriate Technology. The course, conducted in English, will include study tours, workshops, classroom lectures and will cover topics such as biogas fermentation processes, design and construction of biogas digesters and the economics of biogas technology.

The cost for each participant is US$3,870 for 45 days, including food and lodging. Candidates may be sponsored by their own governments or employers. Fellowships may also be obtained from the United Nations or its specialized agencies, in which case it is advisable to contact their local field offices.

I would be happy to supply further information about the course on request.

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Acupuncture in Turkey

Apropos of the article "Acupuncture: Turkey Gets the Point" *(Cooperation South*, August 1991), your readers might be interested to know the current legal situation with regard to acupuncture in Turkey. The legislation to regulate the practice was approved by the government and has been effective since last June. Dr. Gulay Isik of the Ministry of Health is making arrangements to set up a higher acupuncture committee within the Ministry. Meanwhile I am in the process of establishing a pain clinic at this hospital, using acupuncture in combination with other treatments.

Dr. Nihal Kadiogullari
Ankara Oncology Hospital
Ankara,Turkey

Your Views on *Cooperation South*

To help us better serve your needs, please fill out this reader survey, cut along the dotted line and return it to: Editor, Cooperation South, Division of Public Affairs (DC1-1902), UNDP, One UN Plaza, New York, NY 10017, USA.

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   - ❑ General TCDC issues—finance; legal; language; organization and functioning of focal points, etc.
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